

introducing the accelerated blood flow into a following non-rotating cyclone eddy chamber at a rate sufficient for [the] a blood phase of the gas containing blood to be urged into [the] a radially outer region of the cyclone eddy chamber by centrifugal force and for [the] a gas phase of the gas containing blood to be separated from the blood phase and to be urged into a radially inner region of the cyclone eddy chamber by the blood phase in that chamber;

discharging the blood phase and the gas phase separately from the cyclone eddy chamber after they have been separated from each other, wherein the gas phase is conducted from [the] a radially inner center of the cyclone eddy current at a place located downstream of the blood inlet channel in a direction lying in the region between [the] an axial forward direction and [the] a tangential direction of movement of the cyclone eddy current of the blood in the cyclone eddy chamber.

3. (Amended) A device for removing gas from gas containing blood, the device comprising:

a non-rotating cyclone eddy chamber having an inlet thereto and an outlet therefrom, said chamber being shaped for passing gas containing blood in the form of a cyclone eddy current for producing a centrifugal force that separates the blood into a blood phase in [the] a radially outer cyclone eddy region and a gas phase in [the] a radially inner cyclone eddy current region;

[a cyclone inlet to the cyclone eddy chamber for gas containing blood;]the cyclone inlet comprising at least one helically circularly extending blood inlet channel, the blood inlet channel shaped for narrowing in funnel like manner, at least over part of its length in the direction of flow of blood therealong, in a helical circular path shaped for accelerating the flow of gas containing blood through the blood inlet channel; the blood inlet channel having an end section directed substantially tangentially into the cyclone eddy chamber spaced from the cyclone outlet;

[a] the cyclone outlet from the cyclone eddy chamber and the blood phase being axially spaced from the cyclone inlet;

the cyclone inlet and the cyclone outlet for the blood phase are arranged so that the cyclone eddy current rotates around as ^{blood} it moves through the cyclone eddy chamber, without reversal of its directional flow from the cyclone inlet to the cyclone outlet;

a gas outlet from the cyclone eddy chamber separated from the cyclone outlet for the blood phase for discharge of the gas phase from the cyclone eddy chamber; the gas outlet being